BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.   20554

In the Matter of:)
)
)
Amendment of Part 76 of the Commission's   )   MM Docket No.   85-349
Rules Concerning Carriage of Television   )
Broadcast Signals by Cable Television   )
Systems   )
)
_____)

REPLY COMMENTS OF THE BUREAUS OF COMPETITION,
ECONOMICS AND CONSUMER PROTECTION OF THE
FEDERAL TRADE COMMISSION
Washington, D.C.   20580
February 25, 1986

Introduction

        The staff of the Federal Trade Commission ("FTC") is pleased

to respond to the Notice of Inquiry and Notice of Proposed

Rulemaking adopted by the Federal Communications Commission

("FCC" or "Commission").[1] Our reply comments consider the

consequences to consumer welfare of the compulsory license

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[1] In the Matter of Amendment of Part 76 of the Commission's
Rules Concerning Carriage of Television Broadcast Signals by
Cable Television Systems, MM Docket No. 85-349, 50 F.R. 48,232,
adopted November 14, 1985 (hereafter referred to as "Notice").
These reply comments represent the views of the Bureaus of
Competition, Economics, and Consumer Protection and do not
necessarily reflect the views of the Federal Trade Commission or
any individual Commissioner. The Commission, however, has
authorized these reply comments. Inquiries regarding these reply
comments should be directed to Winston S. Moore, Bureau of
Competition, Federal Trade Commission, Washington, D.C., 20580.

statute and of any "must carry" rule requiring carriage of local broadcast stations by cable systems.[2]

The so-called "must-carry" rule was adopted in response to the perception of cable television as a threat to the viability of the nation's broadcasting system, which is premised on the existence of local television stations, and therefore to the Commission's policy of fostering "localism" in the development of the nation's broadcasting system. Under the Commission's rules, cable systems were required to carry all local television stations.[3] The must-carry rule was one of a number of rules promulgated by the FCC between 1966 and 1972, to limit the impact of cable on broadcasters and on localism.[4] By 1980, most of these rules had been either overturned by the courts or eliminated by the FCC as evidence mounted that the growth of cable would have only a minimal impact on the number and revenues of local broadcast stations.[5] The most recent must-carry rule, declared unconstitutional by the Court of Appeals for the District of Columbia in July 1985,[6] was the last remnant of the Commission's policies restraining the growth of cable.

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[2] These reply comments do not address the constitutional issues raised by either the compulsory license statute or a must-carry rule.

[3] 47 C.F.R. §§ 76.57 - 76.61 (1984).

[4] For a complete history of these rules, see S. Besen and R. Crandall, "The Deregulation of Cable Television," Law and Contemporary Problems, Vol. 44, No. 1 (Winter 1981), at 85-97 (hereafter Besen and Crandall). The discussion here draws heavily from that history.

[5] See Besen and Crandall at 103-106.

[6] Quincy Cable TV, Inc. v. FCC, 768 F.2d 1434 (D.C. Cir. 1985).

The compulsory license statute permits cable operators to carry non-local (distant) broadcast signals without first seeking the consent of either the distant broadcast station or the copyright holders of the programming appearing on that station. In return, a cable operator pays a regulated license fee that is distributed to the copyright holders. The compulsory license system was adopted by Congress in the Copyright Revision Act of 1976,[7] in response to two public interest concerns.[8] First, absent statutory compulsory licensing, it appeared that cable operators could retransmit broadcast programming without the prior consent of or payment to the retransmitting stations or to the copyright holders of the programming appearing on those stations.[9] Second, there was concern that because of the high costs of negotiating with such copyright holders, cable systems would not absent a compulsory license system carry distant signals.

Section I of these reply comments assesses the likelihood of cable carriage of local broadcast stations in the absence of a must-carry rule. Section II considers some of the market distortions that may be caused by such a rule. Section III reviews the costs and benefits of the compulsory license statute. The staff's conclusions appear in section IV. After assessing the comments filed in this proceeding and the evidence developed in this reply comment, the FTC staff concludes that no valid

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[7] 17 U.S.C. §§ 1-810 (1976).

[8] See Besen and Crandall at 102-103.

[9] Id.

economic policy bases support a must-carry rule or the compulsory
license statute. In all likelihood, the economic costs to
consumers of the must-carry rule and the compulsory license
statute far outweigh any preceived economic benefits. We urge
the FCC not to impose a must-carry rule for cable systems and to
seek the repeal of the compulsory license statute.

I. The Must-Carry Rule: Potential Benefits and Costs

The FCC adopted the must-carry rule in response to two related concerns. First, the Commission viewed any failure by cable systems to carry local broadcast stations as an "unfair competitive" practice.[10] Second, the Commission believed that such a failure would adversely affect the growth of local broadcast stations as outlets for local expression.[11] In view of these identified concerns, we believe that the central issue is whether the number of broadcast signals carried by a given cable operator in the absence of a must-carry rule would significantly exceed the number of signals carried in a monopolistic environment. Commenters responding to the Commission's Notice urge two conflicting views of the likelihood that cable systems will carry local broadcast stations in the absence of a must-carry rule. Some commenters argue that cable operators, for apparently monopolistic reasons, will decline to carry many local broadcast stations.[12] Others argue that cable operators will

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[10] In the Matter of Rules re Microwave-Served CATV, Second Report and Order in Docket No. 14895, 2 FCC 2d 725 (1966). For purposes of this analysis, we interpret "unfair competitive" practice as an anticompetitive practice. Thus, we do not consider any benefits from cable carriage of local television stations other than those perceived by individual consumers.

[11] Id.

[12] See, e.g., Comments of The National Association of Broadcasters at 28-30, filed January 29, 1986 (hereafter "NAB"); Comments of The Television Operators Caucus at 17-19, filed January 29, 1986 (hereafter "TOC"); Comments of The Association of Independent Television Stations at 67-68, filed January 29, 1986 (hereafter "INTV").

carry local stations because it will be profitable to do so.[13] To the extent that this second view is correct, any public interest basis for the imposition of a must-carry rule appears tenuous. However, no commenter has offered the Commission any empirical evidence of a general nature regarding the likely extent of cable carriage of local broadcast stations.[14]

In order to assist the Commission in evaluating these competing claims, we first review, in light of existing empirical evidence, allegations that cable operators will have the incentive and ability to monopolistically restrict the number of broadcast stations available to cable subscribers. Based upon an analysis of local station carriage by cable-like video distribution systems, we then predict the extent of cable carriage of local stations in the absence of a must-carry rule.

At the outset, it should be noted that even in a fully competitive video distribution market, a given cable system will not necessarily carry all local television stations.[15] Because

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[13] See, e.g., Comments of The National Cable Television Association at 20-21, filed January 29, 1986 (hereafter "NCTA"); Comments of The Department of Justice at 19, filed January 29, 1986 (hereafter "DOJ").

[14] INTV provides examples of thirteen stations that have been adversely affected by the absence of a must-carry rule. These effects include instances in which a cable operator has declined to carry a local station or has requested payment for station carriage. INTV provides no basis for believing that these stories represent the "typical" effect on broadcast stations of the absence of a must-carry rule. See INTV at 59-67.

[15] A cable operator will continue to add channels of programming as long as the revenues from an additional channel exceed the costs of adding that channel. If the revenues from carriage of an additional local television station do not exceed the additional costs, an unregulated cable operator will not freely carry that television signal.

additional channel capacity is costly, one would no more expect
an unregulated cable operator to carry all local television
signals than one would expect the operator to carry all satellite
programming services or the local grocery store to carry every
brand of cereal or coffee.

A. Potential Benefits of Must-Carry: Reducing the Possibilities of Monopolistic Exclusion of Channels and Cartelizing of the Advertising Market

Of the parties filing comments in support of a must-carry
rule, the NAB presents the most complete argument for adoption.
The NAB concludes that cable operators will find it profitable to
artificially restrict the number of local stations carried by any
given cable system. We conclude that such a restriction is
unlikely.

The NAB's argument rests on the assumption that cable
operators are monopolistic video distributors.[16] As the NAB
notes, in choosing which channels to offer subscribers, the
monopolistic cable operator will consider the degree to which
consumers view the various services as substitutes. But the NAB
fails to show that a cable monopolist would exclude broadcast
stations from cable carriage. For example, consider a market
with two television stations. If broadcast programming and
satellite programming are highly substitutable in an unregulated
market, the availability of satellite programming on cable may
reduce the price consumers are willing to pay for carriage of

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[16] See NAB, Exhibit 4, at 1-29.

local broadcast stations. For the cable monopolist, its total profits may be greatest when only one of the local broadcast stations is carried. However, a competitive cable operator would carry both local stations so long as the additional revenue generated by the second broadcast station exceeds the cost of adding the necessary capacity.[17] Note that we could have just as easily posited that the availability of local broadcast stations reduced the price subscribers are willing to pay for the carriage of satellite programming, and that as a result, the monopolist might carry fewer satellite services. The NAB provides no evidence that a monopolistic outcome would be necessarily skewed towards the exclusion of broadcast stations.[18] Whether broadcast or satellite services are more likely to be excluded depends upon the intensity of consumer preferences for each kind of service.

The NAB does not recognize that in some circumstances a monopolist may provide the same number of programming services as would a competitive cable operator. Indeed, the authors of the theoretical framework utilized by the NAB conclude that an

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[17] If the additional capacity costs exceed the revenues of the second station carried, neither the competitor nor the monopolist would carry the station.

[18] However, there may be one reason why cable carriage in a monopolistic environment might be skewed towards local broadcast services. The NAB and other parties argue that the local character of broadcast stations is integral to the FCC's mass media policies (See NAB at 56; INTV at 27-33). If localism is important to consumers, then broadcast and satellite services may not be as substitutable as presumed by the NAB. As a result, cable carriage of local television signals may be much more profitable than carriage of competing satellite services.

identical number of services would be carried by a monopolistic cable operator and a competitive cable operator.[19]

The NAB notes that an incentive for a cable operator to restrict the availability of _broadcast_ services to cable subscribers is to acquire monopoly power in the advertising market.[20] If a television market is completely wired for cable and if the cable operator is a monopolistic video distributor, then the only means by which consumers can receive video services is via cable. Similarly, in such a market, the only way video advertisers can reach consumers is via cable. The cable operator, by restricting the amount and increasing the price of "viewer-minutes" (i.e., advertising time), can reap monopoly profits from the sale of advertising. One way a cable operator could restrict viewer-minutes would be to offer fewer local broadcast services to cable subscribers. The cable operator would then act as a cartelizing agent for the broadcasters,

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[19] For example, consider the program services A and B. The maximum A is willing to pay the cable operator for cable carriage is $200 while B is willing to pay no more than $101. Assume that the cost to the cable operator of adding each additional channel is $100. If the cable monopolist can charge each service a different price for the desired channel capacity, the monopolist will carry both services, charging A $200 and B, $101. A competitive cable operator could charge each service no more than the costs of adding each channel, _i.e._, $100. Both services A and B will be willing to pay this price and the competitive cable operator will carry both services as well. _See_ S. Besen and L. Johnson, "An Economic Analysis of Mandatory Leased Channel Access for Cable Television" (The Rand Corporation, 1982) at 59-60.

[20] _See_ NAB at 44.

who may have been too numerous to forge a cartel alone.[21] As a result of its monopoly in video distribution, the cable operator can succeed in creating an advertising monopoly. [22]

This advertising monopoly theory assumes that, in areas wired for cable, the only means of receiving local broadcast signals is via cable. At the end of 1985, however, only 56 percent of U.S. television households in cabled areas subscribed to cable.[23] The remaining 44 percent of U.S. television households in cabled areas still view local broadcast signals over-the-air. In these circumstances, the cable operator could not obtain a monopoly over video services.

In addition, even in cabled areas, the availability of broadcast signals over-the-air has a significant impact on cable subscribership and cable prices. Numerous statistical studies have concluded that the extent of subscribership to both basic and pay cable service declines significantly as the number of broadcast signals carried on cable falls relative to the number

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[21] See G. Fournier and D. Martin, "Does Government Restricted Entry Produce Market Power," Bell Journal of Economics Vol. 14(3) (Spring, 1983) at 44-56.

[22] See T. Krattenmaker and S. Salop, "Antitrust Analysis of Anticompetitive Exclusion" (unpublished draft, August 1985).

[23] See Cable TV Investor (9/24/85) at 4.

received over-the-air.24 Another study concluded that the
presence of three or more local over-the-air broadcast signals
significantly reduces the price of basic cable services.25 These
results are not consistent with a presumption that cable is a
monopoly.

In addition, other commenters have noted that in the absence of
a must-carry rule, any failure by cable systems to carry local
broadcast signals could be remedied by the cable subscriber
himself through the purchase of an inexpensive A/B switch and
(where necessary) a rooftop antenna.26

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24 Studies of subscribership to basic cable service include R.
Park, "Prospect for Cable in the 100 Largest Television Markets,"
Vol. 3, No. 1 (Spring 1972) at 130-150; K. Dunmore and M.
Bykowsky, "Cable Television Demand and its Implications for Cable
Copyright" (unpublished draft, July 1982). Studies of pay cable
subscribership include J. Levy and P. Pitsch, "Statistical
Evidence of Substitutability Among Video Delivery Systems," in
Video Media Competition (ed. Eli Noam)(New York: Columbia
University Press, 1985) at 56-92.

25 See Comments of the National Cable Television Association,
In the Matter of Amendments of Parts 1, 63, and 76 of the
Commission's Rules to Implement the Provisions of the Cable
Communications Policy Act of 1984 (FCC MM Docket No. 84-1296),
filed January 28, 1985, at Appendix A.

26 See NCTA at 22; DOJ at 22; Comments of Western Communications
and Gill Industries at 7, filed January 29, 1986. An A/B switch
operates much like the AM/FM switch on a car radio. When the
switch is in one position, the television set receives broadcast
signals; in the other position, the set receives cable.
    Based on a survey commissioned for this proceeding (NAB,
Exhibit 1, at 1-33), the NAB argues that for most cable
subscribers, the A/B switch and rooftop antenna do not represent
an option to cable carriage of local stations. The NAB survey
indicates that most cable subscribers do not have the
necessary equipment to alternate between cable service and off-
air reception of local television stations. However, because the
now-vacated must-carry rule eliminated the need for off-air
reception, it is hardly surprising that few cable subscribers
have purchased the necessary equipment.
                                        (footnote continued)

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B. Predicting cable carriage in the absence of a must-carry rule

Existing theory and evidence, then, suggest that because of the availability of alternatives to cable for reception of local broadcast stations, cable operators are unlikely to monopolistically restrict the number of local broadcast stations

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(footnote continued)

The NAB survey also asks cable subscribers about the quality of off-air reception. Because so few cable subscribers possess the necessary equipment to receive off-air signals, the question posed to these subscribers by the NAB is not meaningful. This question should have been addressed to non-subscribers in areas where cable is available.

The survey estimates the total consumer cost of purchasing the necessary reception equipment to be between $458 million and $863 million, apparently on the assumption that cable will not carry local signals absent a must-carry rule. Our conclusion regarding projected carriage of local broadcast stations clearly casts considerable doubt upon the validity of this assumption (see discussion below). Even if this assumption were correct, however, these estimated costs are meaningless unless compared to the capacity costs incurred by cable systems to accommodate the must-carry stations and the costs to consumers of the displacement of satellite programming services by the must-carry stations.

More to the point, the survey indicates that the failure to carry local stations could result in 44 percent of cable subscribers terminating their cable subscriptions. This percentage indicates the high degree of subscriber sensitivity to the availability of local broadcast stations on cable. This sensitivity is not surprising in light of the small monthly cost a household would have to incur to install (at worst) a rooftop antenna. Based on a price of $160 for a UHF/VHF rooftop antenna (including installation), an assumed antenna life of ten years and an assumed annual interest rate of ten percent, the equivalent monthly cost to the consumer would be $2.11. This figure is considerably lower than cable's average monthly basic subscription price in 1985 of $9.70. (See Arthur D. Little, Inc., "Prosperity for Cable TV" (May 1985) at A1-A.) There may, of course, still be differences in the reception provided by cable and that available over the air. But if in general reception of local broadcast signals were poor or too expensive to improve, one would not have predicted the results of the empirical studies cited in note 24 supra.

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carried. In order to provide the Commission with more direct empirical evidence regarding cable carriage in the absence of a must-carry rule, the FTC staff conducted a study of local broadcast signals carried by satellite master antenna television (SMATV) systems. SMATVs differ from conventional cable only in that they tend to serve multiple dwelling units. Like cable, SMATVs provide subscribers with multichannel services via a wire, including both broadcast and satellite services, and face competition from over-the-air television. In addition SMATVs compete among themselves for access to multiple dwelling units. Equally important for our analysis, SMATVs are not subject to the must-carry rule.[27] Thus, an analysis of the behavior of SMATVs with respect to the carriage of local broadcast signals should provide the Commission with a strong indication of the likely behavior of cable in the absence of any must-carry rule.[28]

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[27] See the discussion in The Cable and Television Factbook (1984) at 206.

[28] If in some geographic areas the incentive for a monopolistic restriction of the number of broadcast signals offered subscribers is greater for cable systems than for SMATVs, the generalization in the text may be incorrect. If this were the case, an analysis of the kind presented here could be used to assess specific allegations of anticompetitive restrictions on the number of broadcast services offered by cable operators.
    In addition, to the extent that the incentive for non-carriage of a local station is a cable operator's attempt to acquire market power in advertising, an aggrieved station should be able to easily gather persuasive evidence of that market power for use in a private antitrust suit. In particular, the price per cable viewer-minute paid by local advertisers will be significantly higher in these monopolistic conditions than the price per non-cable viewer-minute paid by local advertisers to reach non-cabled homes. In a private antitrust suit, such evidence could be combined with a SMATV analysis to support an
(footnote continued)

In particular, our study was designed to assess the profitability of local broadcast station carriage relative to the carriage of satellite programming services by inference from the SMATV experience. We conducted this assessment by examining the factors affecting the proportion of all local stations carried by a SMATV. Based upon these factors, we project the likely extent of cable carriage of local broadcast stations in a variety of market environments.

1. The SMATV sample

Our sample consists of 24 SMATV systems, the data for which were culled from individual system descriptions in the SMATV Newsletter[29] over the period 1981-85. Complete descriptions of SMATVs typically included information on how many local off-airs were carried (but not which ones were carried) and either the number of satellite programing services carried or the total channels offered subscribers, or both. While the sample size is small we believe the results are strong enough to serve as a guide to the Commission in this proceeding.

Two apparent biases to our data set should be noted. First, the largest SMATV system in our sample has only 24 channels. While larger SMATVs exist, the SMATV Newsletter descriptions were

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allegation of anticompetitive exclusion. As a general matter, however, such monopolistic restrictions on carriage of local stations appears unlikely. Therefore, the analogy between SMATV and cable in the text appears appropriate. See also DOJ at 21-26.

[29] Paul Kagan and Associates, Inc.

considerably less detailed as the number of channels available to subscribers increased. The significance of this bias is discussed below. Second, a number of SMATV systems described did not provide any local broadcast stations to their subscribers via cable but made these stations available to subscribers via an A/B switch, a master antenna, or both. Although we could have assumed that these systems made all local stations available to their subscribers, we instead deleted these systems from our sample.[30] As a result, the tendency of SMATVs to provide their subscribers with local broadcast stations may be understated. Our estimates, therefore, will be conservative.

2. The proportion of off-airs selected for SMATV carriage

Carriage of local stations appears to be profitable for SMATVs. If the profitability of carrying local stations tended to be less than the profitability of carrying satellite services, the limited number of channels offered by SMATVs in our data set suggests that we should observe a low proportion of SMATV channels devoted to local broadcast stations. In fact, however, local stations occupy, on average, 46 percent of the SMATV channels offered, with individual system percentages ranging between a low of 34 percent and a high of 67 percent. Because the number of satellite services from which a SMATV could choose ranged between 40 and 50 over the 1981-85 period, this evidence does not support a conclusion that SMATV carriage discriminates

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[30] This means that we deleted from our sample SMATV systems whose subscribers presumably could have received every local station simply by flipping an A/B switch.

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against local broadcast stations. Instead, it appears reasonable
to conclude that SMATVs typically found local station carriage
profitable.[31]

While the above analysis suggests that SMATVs on average
tend to devote nearly half of their channels to local off-airs,
this does not of course mean that all or even most local off-airs
are carried by a SMATV. We therefore determined to examine
the proportion of local stations carried by SMATVs.[32]

Specifically, we examined how this proportion varies with
the number of SMATV channels, the number of available satellite
programming services, and the characteristics of the local broad-
cast stations. Because all of our observations were in markets
that had at least three unduplicated network affiliates (i.e., an
ABC affiliate, a NBC affiliate, and a CBS affiliate) we could not
examine how the number of local stations carried varied with the
number of unduplicated affiliates. Thus, our "benchmark" case is
a market which contains three unduplicated affiliates.

For purposes of predicting the outcomes of our statistical
exercise, we hypothesized that the difference between the number
of local stations carried by a SMATV and the number available
off-air would be lowest when only three unduplicated affiliates

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[31] A complete statistical analysis of these proportions can be
found in Appendix A.

[32] Ideally, we would have liked to examined the relationship
between the factors described below and the probability that a
particular station type (for example, independent or
educational) is carried by a SMATV. Such an examination would
require information regarding which stations were carried by each
SMATV. Our data source did not provide that information.

were available in the market. While the availability of additional local stations could reduce this difference, this could occur only if other local stations had a higher probability of being carried than at least one of the network affiliates.[33]

It also seems reasonable to predict that as the number of SMATV channels increases, there is a greater likelihood of SMATVs carrying local off-air stations. While the profitability of carriage of some local stations may tend to be near the top of the programming queue, the profitability of other local stations may be lower in the queue. The greater the number of SMATV channels offered, the more likely it is that additional, less profitable stations will be included in SMATVs' offerings.

Finally, we predict that an increase in the availability of alternative satellite programming services will tend to reduce the number of local stations carried. The greater the number of satellite alternatives, the more likely it may be that the profitability of carriage of some local stations drops in the programming array.[34]

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[33] Most previous theoretical and empirical research indicates that the various types of stations carried have different effects upon the demand for cable service. Carriage of unduplicated network affiliates tends to have the greatest demand impact while carriage of educational, independent, and duplicate network stations has smaller effects. Thus, it may be more reasonable to predict that the proportion of local stations carried by SMATV falls (but the number of stations carried rises) as the number of local independent, educational, and duplicate affiliate stations increases. See the discussion in appendix B.

[34] In statistically examining the relationship between these factors and the proportion of local stations carried, there is a danger that the statistical process will yield estimates of the
(footnote continued)

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In general our results were as predicted. An increase in the number of available local independents and duplicate affiliates increases the number of local stations carried by SMATV. However, as predicted, the increase in the number of local stations carried is lower than the increase in the number of local stations available over-the-air. In addition, an increase in the availability of satellite services tends to reduce the number of local stations carried. These relationships are all significant at conventional levels of statistical confidence.[35]

Table 1 indicates the sensitivity of the estimated number of stations carried by SMATV to both the number of stations

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SMATV proportion exceeding unity. In order to resolve this problem, we utilize a commonly-used functional relationship which insures that any estimate will be within the zero-to-one range. The nature of the technique is such that the proportion of stations carried when there is, for example, one duplicate affiliate in the market will always be higher than when there are two (assuming our predictions are correct). The estimated proportions will first decrease gradually and then decrease at an increasing rate as the number of duplicate affiliates increases. In general, the assumed behavior of the estimated proportions comports with conventional economic theory. In particular this behavior would be consistent with the hypothesis that carriage of a second duplicate affiliate is not as profitable as carriage of the first. However, because the proportion of stations carried declines more rapidly as the number of duplicate affiliates grows, it is possible at some point for the estimated total number of stations carried by SMATVs to decline. While this behavior is not entirely implausiblé, it does suggest the results may not be reliable when the proportion of stations carried is low.

[35] While the relationship between the number of SMATV channels and the proportion of local stations carried was always positive (i.e., an increase in SMATV channels is associated with an increase in the proportion of local stations carried), that relationship was not statistically significant in the procedure that distinguished among the various types of local stations (independent, educational, duplicate affiliate) available in the
(footnote continued)

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TABLE 1

PROJECTED CABLE CARRIAGE OF LOCAL BROADCAST
STATIONS, BY CHANNEL UTILIZATION
(Number of Satellite Services = 45)

Number of Channels Utilized

Number of Independents	Total Stations Available 1/	13	24	35	50
		Projected Number of Stations Carried			
1	4	3.16	3.42	3.61	3.78
2	5	3.66	4.05	4.36	4.63
3	6	4.01	4.55	4.99	5.41
4	7	4.15	4.86	5.47	6.08
5	8	4.11	4.99	5.78	6.62
6	9	3.91	4.93	5.90	7.00

Number of
Duplicate
Affiliates

		13	24	35	50
1	4	3.23	3.47	3.64	3.80
2	5	3.86	4.21	4.47	4.70
3	6	4.40	4.87	5.23	5.72

		13	24	35	50
Three Independents, Two Duplicate Affiliates	8	4.53	5.38	6.10	6.85

1/ All markets are assumed to have three unduplicated
affiliates.

Source: Derived from estimates in Appendix B.

available in the market and the number of SMATV channels offered, under the assumption that the number of available satellite services is 45.[36] First, for any given number of available local stations, the number of stations carried increases with the number of channels offered.[37] Second, for any given number of channels utilized, the number of stations carried tends to increase as the number of local stations available increases. The increase is larger for larger channel systems.[38]

(footnote continued)

market. Because the relationship was significant when this distinction among station types was not made, we suspect that the problem is attributable to our relatively small sample.

The only real anomaly was the relationship between the number of educational stations and the proportion of local stations carried. Instead of the predicted negative relationship, the statistical analysis typically indicated that an increase in the number of educational stations increases the SMATV proportion of local stations carried. While this certainly could be true, we again suspect that our small sample is the culprit. However, unlike the number of SMATV channels, this particular relationship was never statistically significant.

[36] The number of available satellite video services in 1985 was 46. Satellite Services Report, May 1985 (National Cable Television Association).

[37] For example, if the number of available stations were seven (four independents), a 13-channel SMATV will offer about four of those stations to its subscribers while a 35-channel SMATV will carry between five and six local stations.

[38] For example, in a market with four stations available (one independent), a 13-channel SMATV will offer subscribers around three stations; a 35-channel SMATV will offer about four. In a market with seven stations available (four independents), the 13-channel system will offer about one additional local broadcast station while the 35-channel SMATV will offer about two additional over-the-air stations.

The tale for duplicate affiliates and for a market consisting of eight stations (three independents, three unduplicated affiliates and two duplicated affiliates) is similar. As channel capacity increases, SMATVs tend to carry more local stations and, for systems in excess of 24 channels, that proportion is always greater than one-half.

Based on the SMATV analysis, and because cable systems have been growing in capacity over time,[39] we predict that absent a must-carry rule, more than half of the local stations would be carried on cable and, in most instances, the proportion could be expected to exceed one-half by a large margin.

In addition to suggesting that cable systems would tend to carry most local stations in the absence of a must-carry rule, our statistical analysis may also indicate the sensitivity of such carriage to the availability of satellite programming services. In particular, it may be that an increase in the number of satellite programming alternatives increases the likelihood that some satellite alternatives are more profitable to carry than local broadcast stations. As a consequence, in the absence of a must-carry rule, cable systems may tend to carry fewer local broadcast stations.

Assuming a 24-channel SMATV system, Table 2 illustrates the change in the number of local stations carried as the number of available satellite services grows.[40] As in Table 1, for any given number of satellite services available, the number of local

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[39] In 1980, 358 systems (8.6 percent of all systems) had a capacity of 30 or more channels. (Television and Cable Factbook (1981)). In 1985, 2455 systems (41.7 percent of all systems) had a capacity of 30 or more channels, accounting for 64 percent of all cable subscribers. (Television and Cable Factbook (1985).)

[40] The results in Table 2 should be considered illustrative only. As the total number of programming services (satellite services plus local broadcast stations) increases, we would anticipate that a profit-maximizing cable operator will increase the channel capacity of the cable system. The increased channel capacity will tend to reduce the effects of the increased availability of satellite services on the number of local broadcast stations. The effect here is similar to the discussion in the text surrounding Table 1.

TABLE 2

PROJECTED CABLE CARRIAGE OF LOCAL BROADCAST STATIONS,
BY NUMBER OF AVAILABLE SATELLITE SERVICES
(Channel Capacity = 24)

Number of Available Satellite Services

Number of Independents	Total Stations 1/ Available	0	35	40	45	50
		Projected Number of Stations Carried				
1	4	3.99	3.78	3.64	3.42	3.10
2	5	4.99	4.63	4.40	4.05	3.57
3	6	5.98	5.41	5.06	4.55	3.88
4	7	6.98	6.09	5.58	4.86	4.00
5	8	7.96	6.64	5.92	4.99	3.94
6	9	8.94	7.03	6.07	4.93	3.72
Number of Duplicate Affiliates						
1	4	3.99	3.80	3.67	3.47	3.17
2	5	4.99	4.70	4.51	4.21	3.78
3	6	5.99	5.56	5.28	4.87	4.29
Three Independents, Two Duplicate Affiliates	8	7.97	6.86	6.23	5.38	4.35

1/ All markets are assumed to have three unduplicated affiliates.

Source: Derived from estimates in Appendix B.

stations carried by SMATVs tends to increase as the number of stations available increases.[41]

However, as the number of satellite services increases, SMATVs tend to carry fewer local stations. For example, with seven local stations (four independents available), the SMATV will carry about six stations when 35 satellite services are available. When the number of satellite services increases to 45, the number of local stations carried declines to fewer than five. Thus a 29 percent increase in satellite services leads to a 20 percent reduction in the number of local stations carried in this particular case.

In addition, when the number of satellite services increases, SMATVs tend to add fewer local stations as the number of available stations increases. For example, consider a situation in which the number of local stations increases from five (two independents) to seven (four independents). When there are 35 satellite services available, the SMATV will carry an additional 1.5 stations. If there are 45 services available, the increased carriage amounts to fewer than one station.

These results suggest on the one hand that the availability of satellite programming services does reduce the number of stations carried, particularly when compared to that period in

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[41] Of particular interest is the case in which the number of satellite services is zero. In that instance, virtually all local broadcast stations are carried in every situation considered. This is probably a very good approximation to that point in time when cable was primarily a retransmitter of broadcast signals. Had we instead found that few if any local stations would be carried in these circumstances, considerable doubt would have been cast upon the validity of our results.

cable's history when only broadcast stations were carried by cable. On the other hand, it is clear that a reasonably large increase in the number of satellite services is required to generate any substantial decline in the number of local broadcast stations offered by SMATVs.

C. Summary: Competitive Harm Generated by a Must-Carry Rule

The evidence presented in this section permits two conclusions. First, absent a must-carry rule, cable systems can be expected to carry many or most local broadcast stations. As noted above, the number of local stations carried can be expected to increase with the increased channel capacity of cable systems. Second, if a cable system were to attempt a monopolistic restriction of the number of local stations offered to subscribers, this attempt will likely fail in light of the ready consumer availability of inexpensive A/B switches and (where necessary) a rooftop antenna.

Third, although the availability of satellite services does reduce the number of local stations carried, the sensitivity of that carriage to the availability of satellite services appears low. Thus it seems that the carriage of local stations is generally more profitable than the carriage of alternate satellite services.

We conclude, then, that there exists little public policy basis for the adoption of any must-carry rule. This does not mean that no broadcast station will be adversely affected by the absence of a must-carry rule. Our analysis does suggest that relatively few stations will be so affected and the affected

stations are likely to be those whose programming is not valued highly by subscribers. To the extent that a policy basis for must-carry would rely upon a perceived need to maintain this nation's broadcasting system, the evidence developed in this section suggests that any harm to the broadcast system from the absence of a must-carry rule will be small.

If those few stations not carried by a cable system believe that the denial of cable carriage represents anticompetitive exclusion, those stations can seek redress not only through the antitrust laws but also through the "commercial use" or "leased access" provisions of the 1984 Cable Communications Act.[42] Under the Act, cable systems with 36 or more channels must set aside a specified percentage of those channels for "commercial use" by programmers not affiliated with the cable system. If a programmer has not been "selected" by the cable operator for carriage, that programmer can invoke the leased access provisions to obtain cable carriage.

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[42] 47 U.S.C. §612 (1984). While the terms of carriage are initially set by the cable operator, these terms can be reviewed by the courts for "reasonableness."

II. Distortions Generated by a Must-Carry Rule

Based upon the experience of SMATVs, we conclude that in the absence of a must-carry rule, many or most local broadcast stations would be made available to cable subscribers. Those few local stations that may not be carried can seek carriage via the 1984 Cable Communications Act. Nonetheless, any must-carry rule that requires cable systems to carry some local stations that would otherwise not be carried may result in an array of cable services less responsive to consumer preferences. In this section, we consider some of the possible distortions in cable system behavior and in marketplace outcomes induced by a must-carry rule.

First, the increased channel capacity costs required by a must-carry rule may result in fewer satellite programming services being offered subscribers and in a higher cable subscription price. Subscription prices will be higher because of the increased channel capacity costs incurred to accommodate carriage of the must-carry stations. Further, some satellite services may no longer be profitable to carry.[43]

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[43] For example, assume that the cost of adding a thirteenth channel to a cable system is $100 while the cost of adding a fourteenth channel is $200. Absent a must-carry rule, the cable operator might offer four out of five local broadcast stations and nine satellite services, a total of thirteen channels of programming. Assume as well that the lowest revenue generated by any satellite service carried (say, the ninth) is $150. If the Commission were to impose a must-carry rule, the cable operator would now be compelled to carry all five local broadcast stations. If the operator were to continue to carry all nine

(Footnote continues)

Second, some commenters have noted that cable systems do not in fact offer video distribution services in a competitive vacuum.[44] In addition to over-the-air television, cable faces competition from the rapidly growing number of earth stations (satellite receivers) and video cassette recorders, from the imminent availability of multichannel multipoint distribution systems (MDS), and from the prospective availability of direct broadcast satellites. Because cable's competitors would not be burdened by a must-carry rule and will thus offer competitive prices and product mixes, the rule will tend to artificially skew the provision of programming away from cable and towards its competitors.[45]

(Footnote continued)

satellite services as well, the operator would have to incur an additional cost of $200 to construct the fourteenth channel. But because the ninth satellite service generates only $150 for the operator, carriage of the ninth satellite service will result in the operator incurring $200 in additional channel costs and earning only $150 from the use of that channel. In other words, the operator will experience a loss on the ninth satellite service carried and a profit-maximizing cable operator will not carry that service.

[44] See, e.g., NCTA at 13-14.

[45] Returning to the example in note 43, the ninth service will not be carried by the cable operator if the operator must carry all five local stations. This will be true even if consumers value that ninth service more highly than the fifth broadcast station. As a result, cable service may now appear less attractive to some consumers than the services offered by other video distributors, such as multichannel MDS. Thus, cable operators may lose some subscribers to video distribution services not burdened by must-carry, or some consumers may simply choose to view the local broadcast stations over-the-air rather than subscribe to cable.

A final market perturbation that may flow from the must-carry rule is dynamic. In order to retain their carriage status in an unregulated market, satellite programmers must continuously compete with each other and prove their profitability to the cable operator. By contrast, a must-carry rule would guarantee the broadcaster free access to cable subscribers for the rule's duration. To the extent that the must-carry rule imposes costs on consumers, it is because the price-service mix with must-carry requirements is less preferred than the mix in the absence of those requirements. If the array of satellite programming alternatives is reasonably stable over time, then the costs of the rule, in terms of the desirability to consumers of the price-service mix, may be stable as well. However, if the satellite programming market is marked by a large amount of entry and exit, the array of services available in the future may be more preferred by consumers than the current array. In such a dynamic market, any must-carry rule would limit the operator's ability to provide these desired services in place of the less preferred broadcast services.

Table 3 reveals that the quantity of satellite programming offered is relatively stable. Over the period 1982-85 there have been only relatively modest changes in the number of satellite (video) programming services. The average absolute year-to-year change in the number of total services during that period was

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eleven percent.[46] However, that figure masks substantial movements into and out of cable programming. As a percentage of total video services, the sum of new and discontinued services averages 35 percent over the four years, more than three times as large as the year-to-year change in total services. With a turnover rate in excess of one-third, it would be difficult to characterize this market as stable.

To be sure, a must-carry rule narrower than the now vacated rule will reduce the distortions flowing from must-carry.[47] But as compared to an unregulated environment, the effect of any must-carry rule will tend to reduce the number of satellite services offered subscribers and to increase the subscription price of cable.

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[46] For example, the absolute change in the number of satellite services in 1985 compared to 1984 was four. The percentage change was eight (four divided by the fifty satellite services available in 1984).

[47] Many parties have proposed adoption of a narrower rule. See NAB at 48-50; INTV at 7-13; TOC at Appendix A.

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TABLE 3

Instability in Cable Programming
(video services delivered via satellite)

YEAR	TOTAL SERVICES	NEW SERVICES	DISCONTINUED SERVICES	PROGRAMMING* FLUX
1982	40	11	8	47%
1983	42	7	5	29%
1984	50	12	4	32%
1985	46	5	9	30%

* Flux is defined as the sum of new services and discontinued services divided by total services.

Source: Latest issue of Satellite Services Report for each year, 1981-1985 (National Cable Television Association).

III. The Compulsory License

A. Background

Under the Copyright Revision Act of 1976,[48] cable operators are authorized to retransmit to their subscribers any non-local (distant) broadcast signals. Under the Act, the cable operator is not required to obtain the consent of either the broadcast station or the copyright holders of the programming appearing on that station before retransmission.[49] In return for the privilege of importing distant signals, the Act requires the cable operator to remit a royalty payment to the Copyright Office. Smaller cable systems pay a flat sum for all distant signals imported while larger systems remit payments based upon a percentage of their gross subscriber revenues. These royalty payments are then disbursed to groups of major copyright holders who then distribute the funds to individual copyright holders. The initial distribution is either conducted through mutual agreement of the major parties or adjudicated before the Copyright Royalty Tribunal.[50]

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[48] 17 U.S.C. §§ 1-810 (1976).

[49] Descriptions of the provisions in this act can be found in Besen and Crandall at 103-110.

[50] This independent federal agency was created by Congress in adopting the 1976 Copyright Revision Act to adjudicate distributional disputes and to periodically adjust the royalty fee schedule. 17 U.S.C. §§ 804(a)(2)(A) (1976) and 17 U.S.C. §§ 804(b) (1976).

B. The alleged need for a compulsory license.

Proponents of the compulsory license statute contend that a "free market" in the distribution of distant signal programming would ensure the virtual elimination of a distant signal market.[51] This contention is based upon the assumption that the costs to cable operators of negotiating, monitoring, and enforcing contracts with each and every program producer regarding each and every program exhibited on a distant signal would be prohibitively high. The compulsory license statute, by eliminating the need for such costly individual contracts, renders the existence of a distant signal "market" possible, it is argued.

The evidence does not support the assumption that high transaction costs in the absence of the compulsory license statute would eliminate the distant signal market. In fact a number of satellite program distributors have come into existence in the unregulated market and act as intermediaries between copyright holders and cable operators. Cable operators incur full copyright liability for offering cable subscribers satellite services such as HBO and ESPN and the dollar amount of that liability is determined in an unregulated market without the "benefit" of government intervention. Of course, cable operators do not deal with the copyright holders of each and every program appearing on the satellite services carried. Rather, the operator deals with, for example, HBO, who acquires the cable

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[51] See the discussion in S. Besen, W. Manning, and B. Mitchell, "Copyright Liability for Cable Television," Journal of Law and Economics, Vol. 21, No. 1 (April 1978) at 86-87 (hereafter Besen, et al.). See also NCTA at 26, note 45.

distribution rights for the programs appearing on HBO from individual copyright holders. Thus, HBO and other satellite program distributors can be viewed as intermediaries between the cable operator and individual copyright holders. Like any other program network, the role of the intermediary is to eliminate the need for the cable operator to deal with each and every copyright holder. Repeal of the compulsory license statute would likely result in the birth of intermediaries to "broker" distant signal programming.

For example, much like HBO and other satellite distributors, individual broadcast stations could acquire not only the broadcast rights to their programming but also pay a price that includes the cable distribution rights to that programming, either generally or for a specific geographic area. Cable systems acquiring the rights to exhibit distant signals would deal with the broadcast station and not the individual copyright holders. For all intents and purposes, such intermediaries already exist. For example, the independent Atlanta broadcast station WTBS is delivered by satellite to over 7100 cable systems serving 33.9 million cable subscribers.[52]

Program producers and distributors who sell their wares to WTBS are presumably fully aware that, via WTBS, their programming will be available nationally. The price charged WTBS by these producers for the programming rights would be expected to include

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[52] National Cable Television Association, *Satellite Services Report* (May 1985).

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at least part of the additional advertising revenues WTBS reaps as a consequence of having a national audience. That is, WTBS presumably pays a higher price for its programming than it would if it were exclusively a local station. The same could probably be said for the other three major cable "superstations," WGN, WOR, and WPIX. Equally important, broadcast stations bidding for programs that are already imported into their market via WTBS or one of the other "superstations" will take account of that program availability in calculating their program bids.

Thus, repeal of the compulsory license statute may result in the evolution of more "superstations." In addition, the price paid by a cable operator for the rights to carry a superstation would reflect not only the advertising revenue generated by superstation carriage but also the additional subscriber revenues that superstation carriage might provide. Such programming services would then be on an equal footing with other satellite programming services.[53]

In other markets where the transaction costs may also be significant, private institutions have in fact arisen to assume the role of intermediary. In particular, Broadcast Music, Inc.,

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[53] Even in the current regulated environment, the copyright holders of distant signal programming likely share in the additional advertising revenues generated by cable carriage. But in an unregulated market, the copyright holders might also share in the increased subscriber revenues accruing to the cable operator from distant signal carriage. If the regulated royalty rate paid by cable operators for distant signal programming is not equal to the free-market rate, the incentive to produce various types of programs may be distorted. See the discussion infra at 36-43.

(BMI) and the American Society of Composers, Authors and Publishers (ASCAP) serve as clearing houses for entities that desire music rights for commercial purposes. Both BMI and ASCAP provide to licensees, as one option, a "blanket license" for the use of all the music within the libraries of their organizations.

While the "blanket license" has some superficial similarity to the compulsory license, a number of important differences exist. In general, the price of the blanket license is negotiated in the market.[54] Because it appears reasonable to surmise that the number of composers and musical works far exceeds the number of program producers and television programs, it is likely that in the absence of a compulsory license statute, similar institutions would arise to provide television programming to cable systems within a free market context.[55]

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[54] It should be noted that the practices of BMI and ASCAP have been subject to considerable antitrust scrutiny and consent decrees govern many of the present business practices of BMI and ASCAP. The ASCAP consent decrees are: U.S. v. ASCAP, CCH 1940-43 Trade Cases, 56,104 (S.D.N.Y 1941); CCH 1950-51 Trade Cases 62,595 (S.D.N.Y. 1950); CCH 1960 Trade Cases, 69,612 (S.D.N.Y. 1960). The BMI consent decrees are: U.S. v. BMI, CCH 1940-43 Trade Cases 56,096 (E.D. Wisc. 1941); CCH 1966 Trade Cases 71,941 (S.D.N.Y. 1966).

[55] It has been estimated that absent a music blanket license, CBS would require between 4,000 and 8,000 individual music transactions per year. See P. Areeda, Antitrust Analysis 464 n. 35 (1981). If an independent television station purchased only half-hour programs for a twenty-hour broadcast day during a seven-day week; if each half-hour represented a different program; and if the station acquired all new programs each six months, the total number of yearly transactions between the station and its program suppliers would be 560.

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While the compulsory license statute may reduce contractual costs below those that would prevail in a private market in distant signal programming, we think the benefits from the license are surely far lower than advocates of the license suggest. Moreover, as discussed below, use of the compulsory license may also be accompanied by marketplace distortions.

C. **The price of the license.**

In assessing the economic basis of copyright laws in general and the economic effects of the compulsory license statute in particular, Besen, et al., observe that

> the economic justification of copyright laws is to enable public goods [e.g., books, movies] to be supplied in a private market by establishing the rights of the producers of particular public goods to exclude nonpayers. Although this right is not absolute . . . , the intent of the law is to provide rights of exclusion so that a producer of a work can charge users a positive price and thus obtain compensation for his efforts.[56]

If the authors or producers of such works did not have the right to exclude non-payers (for example, if movie theaters were required to set a ticket price of zero), then these goods would not be provided at all. The compulsory license statute directly abrogates the right of the broadcast stations and copyright holders of television programming to determine who can and cannot utilize their works. To be sure, cable operators will pay some price for the carriage of distant programming. But except by extraordinary coincidence, the regulated price will be different from the price that would be paid in a free market. As a result,

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[56] Besen, et al. at 84.

at least for some producers, the cable compensation may be too low, possibly resulting in the withdrawal of some programs from the market or the failure to produce new programs.[57]

If cable operators can acquire programming at below-market prices because of the compulsory license statute, the revenues that can be earned by broadcast stations and the returns to programmers from production and exhibition of quality programming on broadcast stations will be reduced. In response to this decreased revenue, stations may tend to purchase and producers to produce less expensive, lower quality programming for exhibition on broadcast stations. As a result of this lower quality programming, viewers may tend to view sources of entertainment other than broadcast stations. Further, if the broadcast stations do not offer the quality of programming desired by consumers, cable systems may carry fewer distant signals, choosing instead to offer satellite services whose choice of programming quality is not artificially restricted by the compulsory license.[58]

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[57] See also INTV at 39-42.

[58] One caveat must be added here. We are implicitly assuming that there is a competitive market in the production of programming and that a decrease in the revenues earned from program exhibition will lead to a reduction in the expenditure on programming production and in the quality of the programming produced. We believe that this is a realistic description of the way the market for programming operates. However, for the sake of completeness we note that if this is not true, i.e., if program quality does not decline when the revenues earned from its exhibition are reduced, then cable operators may substitute toward distant signals whose price for a given quality of programming is artificially reduced by the compulsory license statute.

If watching satellite programming rather than broadcast programming were the only effect of the compulsory license, then viewers who subscribe to cable would be unaffected by the compulsory license statute. While broadcast stations would have fewer viewers and therefore would presumably be less profitable, viewers who could watch either local broadcast or cable programming would still be able to watch programming of the quality they desire. Viewers who do not have the option of watching cable would, however, be adversely affected by the compulsory license statute as the quality of programming available to them was reduced.

However, there may be an additional effect of the compulsory license statute if the rate charged for distant signal carriage is too low. In such a case, it may not be feasible to produce high quality programming that is profitable only if carried by a combination of cable systems and local broadcast stations. Once the program is made available on a single broadcast station, any cable system can acquire the program for the compulsory license fee, which is, by assumption, too low to make the program profitable.

The effects are much the same if the compulsory license fee is set above the market level. In this case, the compulsory license requirement increases the cost to a cable operator of carrying a distant signal. As a result, cable operators will tend to carry fewer distant signals, again carrying more satellite services than would be the case in an unregulated environment. Again, broadcast stations suffer a reduction in

viewership and therefore presumably are less financially viable. Viewers who can choose to watch cable still receive the quality of programming they desire; they merely receive it through satellite services rather than local broadcast stations. Further, since broadcast stations have reduced revenues from carriage as distant signals on cable systems, they may have to offer lower-quality programming with the result that viewers without a cable option are again made worse-off by the compulsory license statute.[59]

To the extent that there are differences in the types of distant signal programs available, these market distortions may be compounded.[60] For example, if the royalty rate is too low, some programs appearing on distant signals will experience a much greater difference between the free-market price and the

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[59] The effects of the compulsory license statute on programming that is not profitable unless exhibited on both cable systems and broadcast stations may be different where the license fee is too high rather than too low. If the license fee is too high, cable operators will not attempt to pick up such programming as a distant signal. Rather, they will find it more profitable to acquire such programming directly from satellite programmers by paying the free market license fee. Thus, programs requiring exhibition on both media in order to be profitable can be produced where the compulsory license fee is too high. As we saw above, where the fee is too low, such programs will not be produced.

[60] It seem's reasonable to suppose that such differences exist. Such differences clearly exist with respect to satellite services which command different prices. For example, the average monthly per subscriber fee for a sample of thirteen basic satellite services (e.g., ESPN, the Weather Channel) ranged from zero to twelve cents. Cable TV Programming (Paul Kagan and Associates, Inc.), May 30, 1985 at 4. For the pay services (e.g., HBO, Showtime), the monthly per subscriber price to the cable operator ranged from a low of $2.65 to a high of $5.50. Program Databook (Paul Kagan and Associates, Inc.) (May 1983) at 133.

regulated rate. These programs may be "higher quality" (higher cost) or simply more popular. In either case, the lower royalty rate will tend to discourage the production of these programs for broadcast television. The production of these programs may be replaced by lower quality (lower cost) programs.

However, because of differences among programs, a regulated royalty rate that is too low (compared to the free market rate) for some programming may be too high for other programs. In particular, some broadcast programmers in a free market may be willing to make their programs available to cable systems at a price that is lower than that generated by the regulated royalty rate. Because the regulated royalty rate is fixed, these transactions will not occur.

The net result of setting a single schedule of royalty rates without regard to differences across programs, then, is straightforward. Program suppliers will tend to produce those programs whose costs can be recovered at the established rate and will tend to produce programs with similar costs. Thus, the distortion introduced by the compulsory license rate setting process is a tendency to reduce variety in programming.

One could argue that for those programs for which the regulated regulated royalty rates are too low, cable operators in their self-interest would be willing to offer the program supplier additional compensation to maintain the program's availability. However, the cost of a single program is recovered from many users of the program. Any single cable operator would have an incentive to free-ride on compensatory payments of other

operators. Since one would expect all cable operators to behave
in this fashion, the additional compensation required would not
be forthcoming.[61]

For those programs for which the regulated royalty rate is
too high, one could argue that program suppliers can rebate the
difference to those cable operators who would carry the program
at the lower, free market rate. Assuming that such rebates would
be permitted under the statute and that each copyright holder
receives that portion of the total royalty payments generated by
the copyright holder's programs, then a rebate policy may be
profitable. For example, consider a cable operator who would
have to pay $10 to the Copyright Office for carriage of a
particular distant signal program. That operator may be willing
to carry the program only if the price paid is less than, for
example, $7. If the programmer were willing to accept a payment
of only $5 for carriage (a payment that would just cover the
costs of program production when combined with the programmer's
other revenues), the programmer can agree to rebate $5 to the
cable operator. The cable operator would then pay $10 to the
Copyright Office, and the programmer would receive that $10 via
the royalty distribution mechanism. The programmer would then
return the $5 to the cable operator and apply the remaining $5
to production costs.

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61 See Besen, et al. at 84-85.

However, it is unlikely that the distribution of royalty payments is ideal.[62] For example, the programmer may receive only $6 via the royalty distribution rather than the expected $10. A rebate of $5 to the operator will now leave the programmer with only a $1 contribution towards production costs instead of the required $5. If the programmer offers a rebate of only $1, the cable operator will not carry the program and the program will not be produced.[63]

If, in fact, these two routes for compensating for the deviation of the regulated royalty rates from market rates are available to cable operators and program suppliers, then the need for a compulsory license statute is clearly open to question. Both compensation routes would establish the free-market rate through direct negotiations between cable operators and programmers or broadcast stations. The compulsory license statute with its mechanisms for rate-setting and distribution would be a costly artifact serving no purpose whatsoever. The fact that WTBS has

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[62] Even if the single regulated royalty rate selected by the Copyright Royalty Tribunal exactly corresponded to the free market rate (i.e., all programs appearing on distant signals would command the same price from all cable systems), the distribution of regulated royalty payments provides another avenue for potential distortion. There is simply no guarantee that the copyright holders who receive the larger portions of the royalty pie would receive the same portion in a free market. Those programmers who receive more than they would in a free market are richer. Those who capture less may withdraw their programs from the market.

[63] The apparent absence of rebates by distant signal programmers to cable operators may be attributable to the uncertain legal status of such rebates or to imperfections in the distribution of the regulated royalty by payments.

sought a "superstation exemption" from some of the higher fees imposed by the Copyright Royalty Tribunal suggests that private negotiations have not been able to reconcile the dilemma of setting a single rate for programs that would command different prices in the free market.

E. Summary and conclusion

Absent the compulsory license statute, there appear to be a number of possible institutional arrangements in a free market that would ameliorate contractual costs. Absent the compulsory license statute, there would be no artificial incentive for the cable operator to carry too many or too few satellite programming services. Absent the compulsory license statute, there would be no artificial tendency towards a reduction in program variety.

The significance of these tendencies in view of the existence of the compulsory license statute is unanswered. However, because private institutions would likely arise to "broker" distant signal programming, the benefits of the compulsory license statute appear small. And because the marketplace distortions could be significant, repeal of the compulsory license statute would appear to be in the interests of consumers.

IV. Conclusion and Recommendations

Our analysis suggests that reimposition of a must-carry rule is unlikely to have a substantial beneficial effect upon consumers. First, any attempt by a monopolistic cable operator to artificially restrict the number of local television stations available to cable subscribers would likely prove futile. The use of an A/B switch and, where necessary, a rooftop antenna will act as a foil to such a restriction. Second, the statistical evidence regarding the effect of over-the-air television signals on cable demand and cable subscriber prices indicates that off-air reception and cable carriage of local television stations are substitutes. Third, those broadcast stations who believe themselves to be victims of anticompetitive exclusion can pursue remedial procedures for the exclusion in the leased access provisions of the 1984 Cable Communications Act. The benefits of any must-carry rule appear even more remote in light of our empirical analysis, which suggests that most local broadcast stations will in fact tend to be carried by cable systems absent a must-carry rule.

Against the minimal benefits flowing from a must-carry rule, the FCC should weigh the likelihood that the rule will induce changes in the price-service mix offered to cable subscribers. As a consequence of the increased channel capacity costs, some satellite programming services may not be offered at all to subscribers. Moreover, one effect of a must-carry rule may be to skew marketplace outcomes in favor of local broadcast stations and other video distribution technologies. We conclude that, in

all likelihood, the adoption of any must-carry rule that is effective -- in the sense that it compels cable operators to choose an array of programming different from what they would absent the rule -- would not promote consumer welfare.

With respect to the compulsory license statute, we conclude that there is little public interest justification for this policy. Absent the compulsory license statute, we are confident in predicting that an unregulated market in distant signal programming would quickly spawn the development of private institutions to "broker" the sale of distant signal programming to cable operators. In addition, the compulsory license statute, with its associated rate-setting and royalty distribution mechanisms, may have introduced a tendency towards reduction in the variety of programming available to consumers. The economic case for repeal of the compulsory license statute is at least as powerful as the case against re-imposition of a must-carry rule.

Against that background, we consider the novelty of the proposal made by the Independent Television Association (INTV).[64] That proposal, if adopted, would condition a cable operator's use of the compulsory license statute upon the operator's agreement to comply with a presumably more narrowly crafted must-carry rule. If he chose not to comply with a new must-carry rule, the operator would surrender his rights under the compulsory license statute. If such an operator wished to use distant signal

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[64] See INTV at 7-13.

programming, he would have to negotiate directly with the distant broadcast station or the relevant copyright holders.

By conditioning use of the compulsory license statute on compliance with a new must-carry rule, the Commission would clearly increase the operator's costs of using the compulsory license statute. As a result, many cable operators might opt for direct negotiations for distant signal program acquisition rather than be burdened by a must-carry rule. Such an outcome could provide many of the consumer benefits that we believe would result from the continued absence of a must-carry rule and by the repeal of the compulsory license statute.

For two related reasons, we suspect that in practice a conditional must-carry rule would not result in this outcome. First, in light of the opinion of the Court of Appeals in vacating the previous must-carry rule,[65] any new must-carry rule would probably be much less burdensome than the previous rule. That is, a much narrower must-carry rule is likely to result in an array of local stations offered cable subscribers that is more closely aligned to that which would be offered in the absence of a rule. This observation is also suggested by the evidence presented here regarding the likely extent of local station carriage by cable systems absent a must-carry rule. As a consequence, many cable operators may find it profitable to incur the additional capacity costs necesssary to comply with a

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[65] Quincy Cable TV Inc. v. FCC, 768 F.2d 1434 (D.C. Cir. 1985).

narrowly-fashioned must-carry rule in order to take advantage of the compulsory license statute.

Second, because relatively few operators may choose the non-compliance route, the demand for distant signal programming by these few operators may not be financially sufficient to support the development of private institutions to "broker" distant signal programs. In these circumstances, the costs to the cable operator of acquiring distant signal programs may be higher than those incurred in a world without the compulsory license statute and in a world with conditional use of the compulsory license statute. This result will further discourage non-compliance with a new must-carry rule.

We agree with the Department of Justice that the greatest consumer benefits would be derived from repeal of the compulsory license statute and the absence of a must-carry rule.[66] Because the non-imposition of a must-carry rule would likely trigger changes in the 1976 Copyright Act (because that Act appears to presume the existence of some form of must-carry rule), the Commission would have the opportunity to persuade Congress to repeal the Act. We urge the Commission to adopt this approach.

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[66] See DOJ at 34-36.

APPENDIX A

SMATV Carriage of Local Television Stations

Assume _arguendo_ that the profitability of carrying
satellite programming services and local broadcast stations is
randomly distributed. For example, if the SMATV operator can
select from among 45 satellite services and five local broadcast
stations, the top 10 most profitable services might include one
broadcast station; the top 20, two stations; and so forth. If
this is true, then any collection of satellite and local broad-
cast programming services offered by SMATVs to subscribers should
contain (approximately) the same proportion of local stations as
exists in the entire array of programming services--the sum of
satellite and local broadcast services--available to SMATVs.
However, the limited number of channels offered by SMATVs in our
data set suggests that if in fact the profitability of carrying
local off-airs tends to rank in the middle or towards the bottom
of the programming array, we should observe a very low proportion
of channels devoted to off-air stations. Alternatively, if the
profitability of carriage of local stations tends to rank high in
the programming array, we should observe a high proportion of
channels devoted to off-airs, as compared to the hypothesis that
programming profitability is random.

Table Al presents the results of our inquiry. In almost
every case the proportion of SMATV channels devoted to local
stations tends to be considerably higher than the proportion of
off-airs in total programming services available, and for the

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TABLE A1

TENDENCY OF SMATVs TO CARRY LOCAL TELEVISION STATIONS

SMATV Location	P1 [1]	P2 [2]	Probability of P1 Occurring by Chance [3]
Philadelphia, PA	.56	.21	Less than .0002
Austin, TX	.50	.12	Less than .0002
Miami, FL	.67	.24	Less than .0002
Austin, TX	.38	.12	Less than .001
Salt Lake City, UT	.50	.12	Less than .0002
Murray, UT	.50	.12	Less than .0002
Denver, CO	.58	.17	Less than .0002
Denver, CO	.64	.17	Less than .0003
Aurora, CO	.50	.16	Less than .001
Ypsalanti, MI	.40	.29	.14
Nashville, TN	.45	.11	Less than .0002
Oklahoma City, OK	.34	.15	.03
Tulsa, OK	.34	.11	.009
Little Rock, AK	.34	.11	.009
Memphis, TN	.34	.15	.006
Sacramento, CA	.50	.21	.024
Apache Wells, AZ	.38	.18	.0023
Indianapolis, IN	.38	.12	Less than .0003
Kalamazoo, MI	.60	.14	.0099
Scottsdale, AZ	.44	.16	.0039
Scottsdale, AZ	.45	.16	.05
Cincinnati, OH	.38	.23	.05
Phoenix, AZ	.50	.14	Less than .0002
Dallas, TX	.46	.18	.0036
AVERAGE	.46	.16	.001

[1] P1 is the proportion of the SMATV's channels devoted to local television stations.

[2] P2 is the population proportion of total available programming services (the sum of the total number of satellite services available on all satellites plus the number of local broadcast stations) accounted for by local TV stations. A TV station was considered local if the stations's grade B contour encompassed the SMATV community.

[3] The lowest value that could appear in this column is zero while the highest value is one. A value of zero would indicate that the chance of observing a value at least as large as P1 if the population proportion is P2 (i.e., if in fact the profit-ability of local broadcast and satellite programming is randomly distributed) is virtually impossible. Technically, the population proportion will be distributed normally with mean P2 and variance σ^2. In calculating the probability of deriving a sample proportion at least as great as P1 from the underlying population, we used standardized normal variates. See Thomas H. Wonnacott and Ronald J. Wonnacott, Introductory Statistics (New York: John Wiley and Sons, 1977) at 166-170.

Source: SMATV data were derived from the SMATV Newsletter (Paul Kagan and Associates), various issues from 1981-1985. Grade B data were com-piled from The 1984 Cable TV Coverage Atlas and the 1984 Television and Cable Factbook, Stations volume. Stations not operating at the time of the SMATV observation were excluded from the calculation. The number of video satellite programming services was derived from the Satellite Services Report, (National Cable Television Association), various issues from 1981 to 1985.

entire sample, the SMATV proportion is nearly one-half. Equally important is the fact that the possibility of these SMATV proportions being derived from an array of programming where profitability is randomly distributed is soundly rejected.[67] In the worst-case, the probability of the proportion for the Ypsalanti SMATV system occurring if programming profitability were randomly distributed is only 14 percent. For the sample as a whole, the probability is about one in a thousand. It seems clear, then, that SMATV carriage of local broadcast stations tends to be more profitable than the carriage of satellite programming services. The conclusion which follows is straightforward: the Commission should expect cable to exhibit this same strong tendency to carry local stations in the absence of a must-carry rule.

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[67] In other words, if the profitability of carrying either a local broadcast or a satellite service is randomly distributed, the number of local stations carried by the SMATV, as a proportion (P1 in Table A1) of the sum of all satellite and local broadcast services carried should be statistically close to P2 in Table A1. The greater is the difference between P1 and P2, the less likely it is that the selection of services offered by a SMATV can be considered a "sample" from a population of broadcast and satellite services whose carriage profitability is random. Because P2 follows a normal probability distribution, we can calculate the probability that the "sample" P1 was in fact drawn from such a population. See the notes to Table A1.

APPENDIX B

Introduction and Hypothesis

The results reported in the text are based upon relatively straight-forward reduced form estimation. We first attempted to explain the total number of local stations carried by a SMATV system as a function of the number of channels used by the SMATV and the number and characteristics of the local broadcast stations available off-air. However, application of ordinary least squares may generate estimates of the number of stations carried that exceed the number of available stations or are negative. Consequently, with the aid of logit techniques we instead substituted as the equation's dependent variable the proportion of local stations carried by SMATV systems. These techniques guarantee that the estimated proportion will never be negative or exceed one.

The hypotheses tested are described in the text, while the source of our data can be found in Table A1. A primary focus of our empirical exercise was the effect of various kinds of local broadcast stations on the proportion of local stations carried by a SMATV. Virtually every study of which we are aware that has examined relationships involving broadcast stations or cable systems--particularly cable demand studies--has found important differences across various station categories.[67] These differences

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[67] See notes 68 and 69.

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are typically attributed to technical and economic distinctions among various station categories.

For example, because of the cost economies television networks experience in the production and distribution of programming and the sale of advertising, network affiliates typically carry the most expensive broadcast programming. The presumable popularity of these programs suggest the profitability of cable carriage of an affiliate of each network. Moreover, carriage of duplicate affiliates may be profitable because of non-network programming; networks tend to affiliate with those local stations that have more attractive non-network fare such as local news and sports.

Independent commercial stations must either produce all their programs, rely on nationally distributed programs that tend to be less expensive and less popular than first-run network programs (because all the network economies are not available to them), or rely on previously exhibited network programs (i.e., re-runs). Thus, the programming of independents tends to be less costly and of lower quality than network programs. Consequently, cable or SMATV carriage of independent stations may not be as profitable as carriage of unduplicated network affiliates.

Within the class of independent stations, there may be differences between UHF and VHF stations. Typically, the reception area of a UHF station is smaller than that of a VHF station. For any particular program, a VHF station will have more viewers and thus earn greater advertising revenues than a UHF station. As a consequence, the VHF independent will always

be able to outbid the UHF independent for the program rights. Thus, UHF independents tend to exhibit less popular programs than VHF independents.

However, in those markets where no VHF independent is available (i.e., where only UHF independents are operational), UHF independents will not labor under this bidding handicap. Thus, in such markets, the profitability of cable or SMATV carriage of UHF independents may be higher than is the case where VHF independents do exist.

The final station category is educational. Although educational stations tend to capture lower viewership shares than other stations because of their highly specialized programming, cable or SMATV subscribers may be willing to pay a relatively higher price to obtain this programming.

Our prediction regarding the ranking of these various kinds of local stations on the SMATV proportion of local stations carried is based upon existing empirical evidence. For example, a seminal cable demand study found that carriage of unduplicated affiliates had the greatest impact on cable demand.[68] Carriage of educational stations and duplicate affiliates have similar but far lower demand effects than that for unduplicated affiliates. Independent stations have the smallest demand effect, with VHF independents having a larger impact than UHF stations. While confirming the impact of unduplicated affiliates on cable demand,

[68] R. Park, "Prospects for Cable in the 100 Largest Television Markets," Bell Journal of Economics, Vol. 3, No. 1 (Spring 1972), equation (*), Table 2 at 139.

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a more recent cable demand study finds no effect of carriage of educational stations on cable demand and finds a reversal in the ranking of duplicate affiliates and independents.[69]

Because all of our SMATV systems have at least three unduplicated affiliates available over-the-air, our empirical analysis of the effect of various station types adopts the presumption, stemming from the available empirical evidence on cable demand, that the proportion of local stations carried by SMATV systems will be greatest when there are only three non-duplicated affiliates available over-the-air. When the number of local stations increases beyond the three unduplicated affiliates, we predict that the proportion of local stations carried by a SMATV will fall (but the number of stations carried will rise). Except for the expectation that the proportion will decline, we are agnostic regarding the rank-order of the effects of station availability by station type.[70] However, the cable demand studies do lend a strong presumption that different station types should have different impacts on the proportion of local stations carried by a SMATV.

Our hypotheses regarding the number of channels used and the number of satellite services available for SMATV carriage are described in the text. We predict that an increase in the number

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[69]   K. Dunmore and M. Bykowsky, "Cable Television Demand and its Implications for Cable Copyright" (unpublished draft, July 1982), at 24-25.

[70]   Given the results of cable demand studies, we test the null hypothesis that the relevant coefficients are zero against the alternative hypothesis that the coefficients are less than zero.

of channels used will increase the proportion of local stations carried.[71] An increase in the number of satellite programming services from which the SMATV can choose is expected to have a negative impact on local station carriage.

Selection of SMATVs

In choosing SMATV systems to include in our sample, we adopted certain screens. First, as noted in the text, systems that provided subscribers with over-the-air stations via an A/B switch, master antenna, or both were excluded. Thus, the availability of local stations to SMATV subscribers may be understated in our sample. Second, if an operator owned (e.g.) five SMATV systems in a specific community and the SMATV systems looked exactly alike with respect to the number of channels available and the number of off-airs provided, only one of the systems was included in our sample. Our concern, of course, was that our observations would not be independent if all five systems were included. If the commonly-owned SMATV systems were in different communities or were in the same community but differed with respect to either the number of channels available or the number of local stations provided, such systems were included in the sample. Third, there were a few instances in which a number of commonly-controlled SMATV systems in a

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[71] It might be argued that channels used is an endogenous variable, simultaneously determined with the number of local stations carried. This criticism might be particularly apropos if we had estimated the total number of local stations and satellite services carried rather than the proportion of local stations carried. In any event, initial experimentation with two stage least squares failed to improve our results.

particular area were described as having a "typical" configuration of channels and local off-airs offered. We included the "typical" system in our data set. Fourth, there were two instances in which the described number of local stations carried exceeded the number of local stations available. These observations were excluded from our sample. The result of our screens left 24 observations in the data set.

Estimation

The value of our dependent variable of interest, viz., the proportion of local stations carried by a SMATV, occasionally assumes a value of one. As a consequence, strict application of the log-of-the-odds version of logit was inappropriate as were logit software packages that presumed a dichotomous dependent variable (i.e., one that assumed either a value of zero or one). Our adjustment of the dependent variable to take account of the small sample size artificially resolved this issue.[72] However, we also estimated the logit directly using maximum likelihood procedures without the small sample adjustment. The assumed starting value for the parameters in the maximum likelihood procedure were those derived from the log-of-the-odds model with the small-sample adjustment. We compared the two models using

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[72] See R. Pindyck and D. Rubinfeld, Economic Models and Economic Forecasts (New York, NY: McGraw-Hill Book Company, 1981) at 293 (hereafter "Pindyck and Rubinfeld").

the likelihood ratio test.[73] Finally, we adjusted the data for

possible heteroscedasticity.[74]

Results

Table B1 defines the variables used in our analysis while

Table B2 presents our results. The results of our efforts are

generally described in the text. As compared to equation (1),

no distinction among the various categories of local stations

available was statistically meaningful. However, we nonetheless

present these results in light of the cable demand studies

indicating that such distinctions are indeed important. We

suspect that such a distinction would be apparent in a larger

sample size. For equations (1) and (2), use of maximum likeli-

hood procedures did not statistically improve our parameter

estimates. For equation (3), however, maximum likelihood estima-

tion did result in improved estimates, reported as equation (4).

Given our failure to distinguish among the various types of

stations and because of the cable demand results, our discussion

in the text regarding the projected number of stations an unregu-

lated cable system would carry is something of a compromise. We

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[73] See Pindyck and Rubinfeld at 312.

[74] Id. at '293. Because of this adjustment, the "intercept" is
no longer estimated by a vector of ones in the data matrix. As
a consequence, all regressions were forced through the origin.
Because standard alogarithms for calculating the multiple
correlation coefficient are inappropriate, in Table B2 we present
the simple correlation between the actual and predicted value of
the dependent variable.

TABLE B1

VARIABLE DEFINITIONS

Variable	Definitions
P	Proportion of local stations carried by SMATV
CHU	Number of channels provided by SMATV
OFFAIRS	Number of broadcast stations whose Grade B contours encompass the SMATV community (hereinafter referred to as local stations)
IND	Number of local independent broadcast stations
INDVHF	Number of local independent VHF broadcast stations
INDUV	Number of local independent UHF stations in SMATV communities where at least one independent VHF station is operating
INDU	Number of local independent UHF stations in SMATV communities where no independent VHF station is available.
EDU	Number of local educational stations
DUP	Number of local duplicate affiliates
SAT	Number of satellite programming services

TABLE B2

EMPIRICAL RESULTS
(t-statistics in parantheses)

Equation Number	Dependent Variable	CHU	OFFAIRS	INDVHF	INDUV	INDU	IND	EDU	DUP	SAT	INTERCEPT	Simple Correlation
(1)	$\log\left(\frac{P}{1-P}\right)$	.117* (2.32)	-.265* (4.24)	---	---	---	---	---	---	-.125* (2.59)	6.174* (2.92)	.79* (6.04)
	$\log\left(\frac{P}{1-P}\right)$	.041 (.55)	---	---	---	---	-.318* (3.61)	.067 (.23)	-.213** (1.66)	-.108** (2.06)	5.974* (2.75)	.76* (5.48)
(3)	$\log\left(\frac{P}{1-P}\right)$	.052 (.63)	---	-.851** (1.34)	-.244* (1.90)	-.428* (-2.43)	---	.09 (.31)	-.246** (1.68)	-.115** (2.01)	6.413* (2.53)	.82* (6.64)
(4)	P	.076 (.88)	---	-.399 (.63)	-.321* (2.18)	-.374* (2.20)	---	-.014 (.05)	-.235** (1.65)	-.099** (1.88)	5.595* (2.50)	.76* (5.47)

* Significant at 95 percent confidence level or better.

** Significant at 90 percent confidence level.

Note: The alternative hypothesis for each of the station variables is that the parameter estimates are less than zero. For CHU, SAT, and the intercept, the alternative hypothesis is that the coefficients of these variables are not equal to zero.

relied on equation (2). Compared to equation (4) and as judged by the magnitude of the parameter estimates, use of equation (2) will result in somewhat more optimistic projections of the number of independents and duplicate affiliates carried and of the effect of channels used on local station carriage. Equation (2) will also result in a somewhat larger effect of satellite program availability on the number of local stations carried.

However, because statistically we were unable to distinguish either equation (2) or (4) from equation (1), we believe that equation (1) is more relevant for comparison purposes. As compared to equation (1), equation (2) will yield more conservative results for the number independents carried and somewhat more optimistic results for the number of duplicate affiliates carried. The impact of channels used and the number of available satellite services on cable carriage of local stations will tend to be more conservative in equation (2) than equation (1). Thus, in general, we believe our results to err, if at all, on the conservative side.

Finally, the projections described in the text estimate the number of local stations carried as the number of channels used increases. Even though this variable was statistically insignificant in equation (2), its significance in equation (1) suggests that our small sample may be the cause of that insignificance. Thus, we concluded that it was appropriate to use the point estimate of equation (2) for prediction purposes. However, because the maximum number of channels used in our data set is

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24, our carriage projections for systems with in excess of 24 channels should be considered only as a rough order of magnitude.

In equation (2), the coefficient estimate for the number of educational channels is positive but statistically insignificant. One interpretation is that the number of educational stations has no impact on the proportion of local stations carried by a SMATV. While this could be true, we thought the more prudent course was to avoid using equation (2) to predict carriage of educational stations. We did attempt to isolate those circumstances in which only one educational station was available from those in which more than one were available. Such a dichotomy would have permitted us to examine of differential effects in the availability of an unduplicated educational station and of duplicate educational stations on on SMATV carriage of local broadcast stations. However, we found no statistically meaningful distinction.